

I Claim:

1. A casing alignment tool for aligning a section of casing within a well bore topped with an annular flange, the tool comprising:

a base plate adapted for detachable securing to an upper surface of the flange;

a back plate extending at a right angle to the base plate; and

5 a means carried by the back plate for engaging an exterior wall of the casing and applying a force having a vertical component to the casing to thereby cause a central axis of the casing to substantially align with a central axis of the well bore.

2. The tool of Claim 1, wherein said force applying means comprises a power means secured to an upper portion of the back plate and a casing engaging member operationally connected to the power means for transmitting the force generated by the power means to the casing.

3. The tool of Claim 2, wherein said power means is a hydraulic jack.

4. The tool of Claim 2, wherein said casing engaging member comprises a Vee block assembly provided with a pair of arms adapted to urge against the exterior wall of the casing.

5. The tool of Claim 4, wherein said Vee block is adapted for engaging the casing exterior wall at a substantially right angle.

6. The tool of Claim 1, wherein said force applying means comprises a winch and at least one flexible non-stretchable band connected to the winch, said band being sized to wrap around the casing exterior wall and transmit pulling force on the casing, while the annular flange acts as a fulcrum.

7. The tool of Claim 5, further comprising a second flexible non-stretchable band extending between the base plate and the flange.

8. The tool of Claim 1, further comprising a means for limiting movement of the casing along a horizontal plane.
9. The tool of Claim 7, wherein said movement limiting means comprises a distance indicator detachably mounted on the annular flange opposite said base plate.
10. The tool of Claim 8, wherein said distance indicator comprises an upwardly extending post secured to the annular flange and an arm extending perpendicularly to said post, a distal end of said arm limiting movement of the casing within the well bore.
11. The tool of Claim 1, further comprising a means for adjusting position of the force applying means in relation to the casing.
12. The tool of Claim 10, wherein said means for adjusting position comprises a slot formed in the back plate and wherein said force applying means comprises an attachment member moving in said slot.
13. The tool of Claim 1, further comprising a means for retaining said back plate in a generally perpendicular position in relation to the base plate.
14. The tool of Claim 12, wherein said retaining means comprises a pair of gussets attached to the base plate and the back plate.
15. A casing alignment tool for aligning a section of casing within a well bore topped with an annular flange, the tool comprising:
 - a base plate detachably securable to an upper surface of the flange;
 - a back plate extending at a right angle to the base plate;
 - 5 a power means carried by the back plate; and

a casing engaging member supported by the power means for engaging an exterior wall of the casing and applying a force having a vertical component to the casing to thereby cause a central axis of the casing to substantially align with a central axis of the well bore.

16. The tool of Claim 15, wherein said power means comprises a hydraulic jack secured to an upper portion of the back plate.

17. The tool of Claim 15, wherein said power means comprises a ratchet winch.

18. The tool of Claim 15, wherein said casing engaging member comprises a V-block assembly provided with a pair of arms for urging against the casing exterior wall when the power means is operated.

19. The tool of Claim 17, wherein said casing engaging means comprises a flexible non-stretchable band extending from said winch and wrapped around the casing exterior wall, said band being adapted to being tightened by the winch, thereby transmitting a straightening force on the casing.

20. The tool of Claim 19, further comprising a second winch and a second flexible non-stretchable band extended between the second winch and the annular flange, with the annular flange acting as a fulcrum for the power means acting on the casing exterior wall.